

## Claims

1.-9. (cancelled)

10. (new) A method for defining a distribution fan-out for the distribution of traffic via different paths in a packet network formed by nodes and connection sections for packet traffic having the same egress node, the method comprising:

dividing the nodes into classes, wherein the classes are determined according to the minimum number of hops between the nodes and the egress node, whereby nodes with the same minimum number of hops belonging to the same class; and

routing from each node of a class at least one link to a node of a class having one fewer hop.

11. (new) The method according to Claim 10, wherein from each node of a class a link is routed along each connection section to a node of the class having one fewer hop.

12. (new) The method according to Claim 10, wherein for at least one node of a class which is connected by a connection section to a node of the same class, at least one link between the node and a node of the same class is defined.

13. (new) The method according to Claim 11, wherein for at least one node of a class which is connected by a connection section to a node of the same class, at least one link between the node and a node of the same class is defined.

14. (new) The method according to Claim 12, further comprising:

defining links on connection sections between nodes of a class, wherein said links being defined

according to a maximization of the number of outgoing logical links for the node or nodes of the class having the least number of outgoing links, and

according to link freedom in respect of the links between nodes of the class.

15. (new) The method according to Claim 13, further comprising:

defining links on connection sections between nodes of a class, wherein said links being defined

according to a maximization of the number of outgoing logical links for the node or nodes of the class having the least number of outgoing links, and

according to link freedom in respect of the links between nodes of the class.

16. (new) The method according to Claim 14, wherein

for nodes of the class, the nodes are sequenced according to the number of outgoing links and, if nodes have the same number of outgoing links, according to the capacity of the incoming links, and performing for at least some of the nodes, the following steps for each node depending on their sequence:

identifying the shortest path from the node to the set of nodes of the class which is fewer by one, paths via outgoing links leading directly to nodes of the class N-1 being disregarded, and

incorporating the link via the first connection section of the identified path into the distribution fan-out as a link, if an identified path does not lead to a loop within the nodes of the class.

17. (new) The method according to Claim 15, wherein

for nodes of the class, the nodes are sequenced according to the number of outgoing links and, if nodes have the same number of outgoing links, according to the capacity of the incoming links, and performing for at least some of the nodes, the following steps for each node depending on their sequence:

identifying the shortest path from the node to the set of nodes of the class which is fewer by one, paths via outgoing links leading directly to nodes of the class N-1 being disregarded, and

incorporating the link via the first connection section of the identified path into the distribution fan-out as a link, if an identified path does not lead to a loop within the nodes of the class.

18. (new) The method according to Claim 10, wherein, in the case of a node which is assigned to a class and which has at least two outgoing links, in the event of failure of one of the outgoing links, the traffic to be routed via this link is distributed onto the other outgoing link or links.

19. (new) The method according to Claim 11, wherein, in the case of a node which is assigned to a class and which has at least two outgoing links, in the event of failure of one of the outgoing links, the traffic to be routed via this link is distributed onto the other outgoing link or links.

20. (new) The method according to Claim 12, wherein, in the case of a node which is assigned to a class and which has at least two outgoing links, in the event of failure of one of the outgoing links, the traffic to be routed via this link is distributed onto the other outgoing link or links.

21. (new) The method according to Claim 13, wherein, in the case of a node which is assigned to a class and which has at least two outgoing links, in the event of failure of one of the outgoing links, the traffic to be routed via this link is distributed onto the other outgoing link or links.

22. (new) The method according to Claim 14, wherein, in the case of a node which is assigned to a class and which has at least two outgoing

links, in the event of failure of one of the outgoing links, the traffic to be routed via this link is distributed onto the other outgoing link or links.

23. (new) The method according to Claim 16, wherein, in the case of a node which is assigned to a class and which has at least two outgoing links, in the event of failure of one of the outgoing links, the traffic to be routed via this link is distributed onto the other outgoing link or links.

24. (new) The method according to Claim 10, wherein, in the case of a node which is assigned to a class and which has one outgoing link, in the event of failure of said outgoing link

the directions of all the links coming into it and originating at nodes of the same class are inverted, and

should no links coming into it and originating at nodes of the same class exist, all the links coming into it are inverted.

25. (new) The method according to Claim 11, wherein, in the case of a node which is assigned to a class and which has one outgoing link, in the event of failure of said outgoing link

the directions of all the links coming into it and originating at nodes of the same class are inverted, and

should no links coming into it and originating at nodes of the same class exist, all the links coming into it are inverted.

26. (new) The method according to Claim 12, wherein, in the case of a node which is assigned to a class and which has one outgoing link, in the event of failure of said outgoing link

the directions of all the links coming into it and originating at nodes of the same class are inverted, and

should no links coming into it and originating at nodes of the same class exist, all the links coming into it are inverted.

27. (new) The method according to Claim 10, wherein in the event of failure of an outgoing link of a node assigned to a class, the class of the node is redefined if the duration of the failure exceeds a limit value.

28. (new) The method according to Claim 11, wherein in the event of failure of an outgoing link of a node assigned to a class, the class of the node is redefined if the duration of the failure exceeds a limit value.

29. (new) The method according to Claim 12, wherein in the event of failure of an outgoing link of a node assigned to a class, the class of the node is redefined if the duration of the failure exceeds a limit value.